

Exhibit "B"

Part 5 of 10

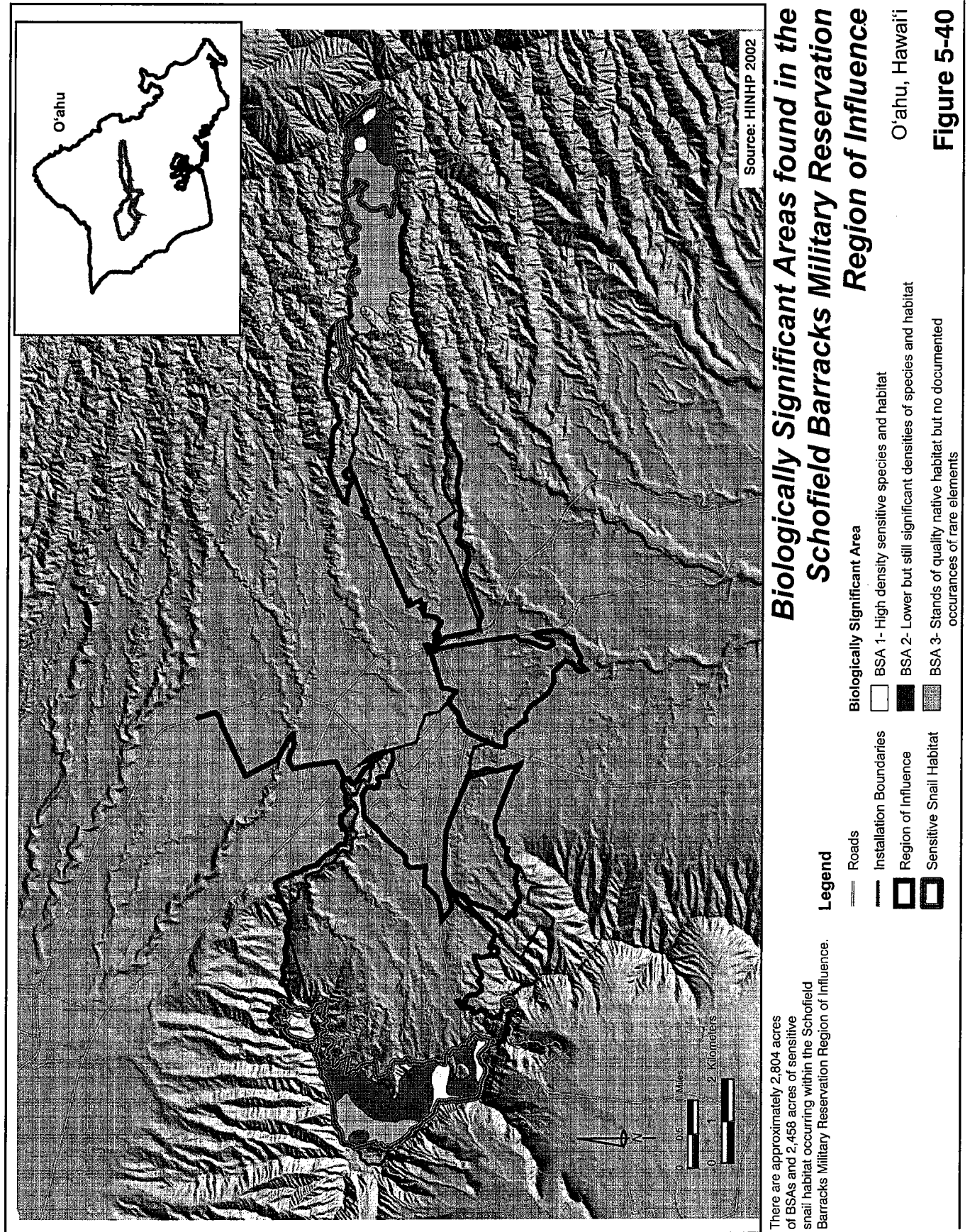


Exhibit "B"
Part 5 of 10

Impact 1: Impacts from fire on sensitive species and sensitive habitat. Military training activities would increase the probability of wildfires and would increase the likely intensity of fires that occur. Wildfires that burn into native communities or sensitive habitats would destroy listed plant and animal species and sensitive habitats.

Table 5-25
Summary of Potential Biological Impacts at SBMR/WAAF

Impact Issues	Proposed Action	Reduced Land Acquisition	No Action
Impacts from fire on sensitive species and sensitive habitat.	⊗	⊗	⊗
Impacts from construction and training activities on sensitive species and sensitive habitat.	⊖	⊖	⊖
Impacts from the spread of nonnative species on sensitive species and sensitive habitat.	⊖	⊖	⊖
Impacts from construction and training activities on general habitat and wildlife.	⊙	⊙	⊙
Threat to migratory birds.	⊙	⊙	⊙
Noise and visual impacts.	⊙	⊙	⊙
Vessel impacts on marine wildlife and habitat.	N/A	N/A	N/A
Runoff impacts on marine wildlife and coral ecosystems.	N/A	N/A	N/A

LEGEND:

- | | | |
|--|-----|---------------------|
| ⊗ = Significant | + | = Beneficial impact |
| ⊗ = Significant but mitigable to less than significant | N/A | = Not applicable |
| ⊙ = Less than significant | | |
| ○ = No impact | | |

The use of ammunition, weapon systems, and pyrotechnics during military training increases the risk of wildland fire ignition. Because natural sources of fire ignition are relatively rare in Hawai'i, many Native Hawaiian plants are not adapted to fire and are adversely affected by it. Nonnative species, particularly nonnative grasses and shrubs, typically invade areas after they have burned. This inhibits the regeneration of native plants. The removal of native species and the spread of nonnative species are significant adverse impacts associated with wildland fires.

5.10 Biological Resources

Wildfires at SBMR are commonly caused by tracer fire and generally start in the impact area. Fire breaks surrounding the impact area can prevent wildland fires from escaping to undisturbed areas; however, fires do occasionally escape and are also occasionally started in other areas by other sources, such as cigarettes, vehicles, and other military activities. Wildland fires could spread and adversely affect biological resources throughout the ROI. Tracer rounds would be used at ranges within the Main Post but not within SBER or the SRAA, so the threat of fire there would be significantly lower than at the Main Post. The ranges at SBMR are designed so that all ammunition firing occurs within firebreak roads. Firing and mortar points are located to ensure that the maximum range of the weapon would not overshoot the impact area. For small arms ranges where tracer rounds are used, the ranges are laid out so that tracer burnout occurs before a round leaves the impact area. It is unlikely that wildfires would be ignited in areas not used for training because these areas are typically dominated by less flammable vegetation (this determination was developed during ESA Section 7 consultation).

The UAV would be used over much of the land area at SBMR but is not expected to affect biological resources during normal operation. However, due to the nature of the UAV, accidents would be possible and could cause wildfires.

In addition to vegetation loss, major adverse ecological effects of wildland fires include reduced watershed stability, soil erosion, increased risk of weed invasion, and loss of native habitat. Fires could destroy native plants and slow-moving animals, such as snails, and could displace mobile animals. BSAs within the ROI that could be affected by a wildfire are presented in Table 5-26. In addition, the following sensitive habitats are within the SBMR ROI: BSAs, federally designated critical habitat for O'ahu 'elepaio, and habitat used by numerous species of native Hawaiian land and tree snails. There is no assurance that fires or other threats associated with the Proposed Action would not reach or otherwise threaten populations of listed species within the SBMR ROI.

Table 5-26
BSAs within the ROI

Biologically Significant Areas	Main Post ROI (acres)	SRAA ROI* (acres)	SBER ROI (acres)
BSA-1	51	Not applicable	50.5
BSA-2	478.6	Not applicable	247.7
BSA-3	30.1	Not applicable	1,211.7

Source: R.M.Towill Corp 1997b.

*SRAA does not contain any BSAs

The sensitive plants at some risk from SBCT fire-related threats are māhoe (*Alectryon macrococcus* var. *macrococcus*), hāhā (*Cyanea grimseana obata*), *Delissea subcordata*, *Diellia falcata*, mehamehame (*Flueggea neowawraea*), *Hesperomannia arborescens*, aupaka (*Isodendron longifolium*), *Labordia cyrtandrae*, 'ānaunau (*Lepidium arbuscula*), *Lobelia niuhauensis*, *Phyllostegia mollis*, *P. kaalaensis*, ale, *Schiedea hookeri*, and 'olopū (*Viola chamissoniana* ssp. *chamissoniana*) (this determination was made during Section 7 Consultation).

The following sensitive wildlife are known to occur or are likely to occur in the ROI and are likely to be affected by the outbreak of a wildfire as the result of the Proposed Action: O'ahu 'elepaio, 'i'iwi, *Achatinella mustelina*, and the Hawaiian hoary bat. These species have been identified as occurring within areas of low to moderate fire risk and would be directly or indirectly affected through the loss of habitat disturbed by a fire outbreak. Impacts on these federally listed species are considered significant. However, the mitigation would substantially reduce the impacts.

Regulatory and Administrative Mitigation 1. The Army will implement all the terms and conditions defined in the Biological Opinion issued by USFWS for current force and SBCT proposed actions on O'ahu, including the O'ahu Implementation Plan. These measures will help avoid effects and will compensate for impacts on listed species that would result directly and indirectly from implementing the Proposed Action. The Biological Opinion is available upon request.

The IWFMP for Pōhakuloa and O'ahu Training Areas was updated in October 2003. The Army will fully implement this plan for all existing and new training areas to reduce the impacts from wildland fires. The plan is available upon request.

Significant Impacts Mitigable to Less than Significant

Impact 2: Impacts from construction and training activities on sensitive species and sensitive habitat. There would be long-term significant and mitigable impacts on sensitive (federally listed) species and their sensitive habitat, including on critical habitat, as a result of SBCT training activities. Listed species potentially affected by the project action include the following:

- Plants: *Abutilon sandwicense*, *Alectryon macrococcus* var. *macrococcus*, *Alsindendron trinerve*, *Chamaesyce rockii*, *Cyanea acuminata*, *C. grimesiana* spp. *obatae*, *C. koolauensis*, *Cyrtandra subumbellata*, *C. viridiflora*, *Delissea subcordata*, *Diellia falcata*, *Flueggea neowawraea*, *Gardenia mannii*, *Hesperomannia arborescens*, *Isodendron longifolium*, *Labordia cyrtandrae*, *Lepidium arbuscula*, *Lobelia gaudichaudii* var. *koolauensis*, *L. niihauensis*, *Phlegmariurus nutans* (*Lycopodium nutans*), *Phyllostegia hirsuta*, *P. kaalaensis*, *P. mollis*, *Plantago princeps* var. *princeps*, *Pteris lidgatei*, *Sanicula purpurea*, *Schiedea hookeri*, *S. kaalae*, *Tetraplasandra gymnocarpa*, *Viola chamissoniana* spp. *chamissoniana*, *V. oahuensis*; and
- Wildlife: *Achatinella apexfulva*, *A. byronii*, *A. decipiens*, *A. leucoraphe*, *A. lila*, *A. mustelina*, *A. sowerbyana*, *A. swiftii*, *Paroreomyza maculata*, *Lasiurus cinereus semotus*, *Chasiempis sandwichensis ibidis*, and the O'ahu 'elepaio.

The proposed locations of restricted road mounted maneuvers and dismounted training is the same area where listed species have been known to occur (Figures 5-34 and 5-35). It is also near the O'ahu 'elepaio's federally designated critical habitat, as well as designated plant critical habitat (Figures 5-38 and 5-39). There are 4,620 acres of O'ahu 'elepaio critical habitat within the SBMR ROI, and 155 'elepaio pairs and additional individuals have been identified within the SBMR ROI (HINHP 2002; see Figure 5-37). There are also 179.71 acres of plant critical habitat within the ROI. No impacts from construction activities are expected to occur

5.10 Biological Resources

to listed species and their critical habitat since there would be no construction activities occurring in the vicinity of the critical habitat.

All sensitive plant species are at risk from trampling, particularly hāhā (*Delissea subcordata*), aupaka (*Isodendron longifolium*), and ulihi (*Phyllostegia hirsuta*) (Gomez 2003), though this risk is low. Special status plant species have been identified as confirmed or potentially occurring within the SBMR ROI (Table 5-23). These species may propagate in the proposed SBMR ROI. Special status and rare wildlife species (determined to be heading to a decline based on population numbers or habitat loss) are either known to occur in the SBMR ROI or could occur, based on the presence of suitable habitat (see Table 5-24). These species use portions of the ROI for foraging, shelter, and nesting.

The proposed training includes road-mounted maneuvers (though there would be no off-road mounted maneuvers within federally designated critical habitat) and dismounted maneuvers. There would be an additional 810 Soldiers training as part of SBCT Transformation. There would also be an increase in the intensity of the training, with more ammunition being used in the ROI. This would result in direct and indirect impacts on listed species and their critical habitat by causing the take of federally listed species and the degradation of critical habitat. Listed snail species could be crushed by mounted and dismounted maneuvers. More vegetation would be trampled, both in new areas and to a greater extent. Erosion, noise, and the visual presence of humans and large machinery would increase. Long-term impacts on listed species and critical habitat include the potential for increased nonnative and invasive nonnative species due to habitat disturbance or people bringing these species to the area on their clothing or equipment, and the increased probability of fire (discussed further under Impact 1). Nonnative species threaten the viability of the 'elepaio and its federally designated critical habitat by carrying diseases, out-competing it, preying on it, and altering its habitat.

Two species of picture-wing fly (*Drosophila* sp.) are known to occur at Pu'u Pane at SBMR. These have been proposed for federal listing as endangered species. All species of picture-wing flies have very specific host plants that they use for breeding and feeding, and over one third of the endemic host plants for these two species are already federally listed as endangered. These plants are scattered in areas that are under increasing pressure from human activities and they are also threatened by habitat damage from feral pigs and goats, nonnative species, and fire. All of these factors combined have aided the decline of the picture-wing flies. The project activities would affect these species by reducing the range of the host plants, which would decrease the available habitat for the picture-wing flies.

These impacts would combine to deter the listed species' use of lands surrounding the ROI. Impacts on these federally listed species may be mitigable to less than significant.

Regulatory and Administrative Mitigation 2. The Army will implement all the terms and conditions defined in the Biological Opinion issued by USFWS for current force and SBCT proposed actions on O'ahu, including the O'ahu Implementation Plan. These measures will help avoid effects and will compensate for impacts on listed species that would result directly

and indirectly from implementing the Proposed Action. The Biological Opinion is available upon request.

The Army will implement land management practices and procedures described in the ITAM annual work plan to reduce erosion impacts (US Army Hawai'i 2001a). Currently these measures include implementing a TRI program; implementing an ITAM program; implementing an SRA program; developing and enforcing range regulations; implementing an Erosion and Sediment Control Management Plan; coordinating with other participants in the KMWP; and continuing to implement land rehabilitation projects, as needed, within the LRAM program. Examples of current LRAM activities at KTA include revegetation projects involving site preparation, liming, fertilization, seeding or hydroseeding, tree planting, irrigation, and mulching; a CTP; coordination through the TCCC on road maintenance projects; and development of mapping and GIS tools for identifying and tracking progress of mitigation measures.

Additional Mitigation 2. The Army proposes to fence or flag where practicable any sensitive plant communities from activities that may take place in the ROI. The Biological Opinions outline fencing for the majority of the sensitive species. USARHAW will evaluate if additional fencing may be necessary.

Impact 3: Impact from the spread of nonnative species on sensitive species and sensitive habitat. In general, nonnative plant and animal species pose a threat to Native Hawaiian ecosystems. The proposed actions at SBMR would be expected to affect the introduction and spread of nonnative species in the following ways:

- Movement of troops and equipment into Hawai'i from continental US or foreign ports, as well as from other islands or subinstallations within Hawai'i, would increase the likelihood of nonnative plant and animal introductions;
- Construction can introduce nonnative species and other weeds through the use of sand and gravel that contains nonnative plant seeds; and
- Fires would put native plant species at competitive disadvantage.

The use of Helemanō Trail would introduce more invasive species to the area. This would have a minor indirect impact on sensitive species because the area where the trail is proposed is largely made up of agricultural lands and dirt roads. Construction of Helemanō Trail would draw more people to the trail. A long-term increase in the use of Helemanō Trail is associated with the Proposed Action. This includes increasing Stryker and conventional truck traffic on the proposed road. There would be an increase in the number of conventional Army trucks (trucks and HMMWVs) and Strykers used on roads to and from SBMR, WAAF, and the Helemanō Trail. There would be 161 trucks and 114 Strykers that would travel on the roads and trail, twelve times per year, with most traffic concentrated on the new trail (see Table 2-7).

The prolonged prohibition of hunting in certain areas because of unexploded ordnance has allowed populations of nonnative mammals, such as pigs, to expand. However, no new

impact areas would be created in conjunction with the Proposed Action, so the Proposed Action will not cause any change in the growing ungulate populations. Increased troop transport among subinstallations and between islands could increase the likelihood of nonnative invertebrates colonizing new areas. Increased activity and disturbance could cause stress to neighboring higher habitat value areas and would assist in the establishment of nonnative species in the immediate and surrounding areas. Therefore, SBCT actions along Helemanō Trail could adversely affect the recovery of listed species in the SBMR ROI.

Fire exacerbates nonnative species spread and establishment. Hawaiian plants have not evolved to withstand fires because there is little natural cause of fire on the islands. As a result, nonnative species have a competitive advantage in surviving and propagating successfully after a fire. If native species withstand an initial fire, they are often destroyed by later fires influenced by the invasion of highly flammable grasses. The potential spread of nonnative species resulting from potential wildfires is considered a significant impact because nonnative species often out-compete native species and destroy native communities. Sensitive plant species likely to be affected by a SBCT-related spread of nonnative species in the ROI are listed in Table 5-27, along with their associated threat level.

Table 5-27
Sensitive Plants Threatened by the Spread of Nonnative Species

<u>Species Name</u>	<u>Percentage of Population within the ROI</u>	<u>Threat Level</u>
<u>Māhoe (<i>Alectryon macrococcus</i>)</u>	<u>7 to 8</u>	<u>Moderate to high</u>
<u>Hāhā (<i>Cyanea grimseana</i> ssp. <i>obata</i>)</u>	<u>6</u>	<u>Moderate</u>
<u>Hāhā (<i>Delissea subcordata</i>)</u>	<u>9</u>	<u>Moderate to high</u>
<u>Palapalai lau lii (<i>Diellia falcata</i>)</u>	<u>1</u>	<u>High</u>
<u>Mehamehame (<i>Flueggea neowawraea</i>)</u>	<u>3</u>	<u>Moderate to high</u>
<u><i>Hesperomannia arborescens</i></u>	<u>94</u>	<u>Low to moderate</u>
<u>Aupaka (<i>Isodendron longifolium</i>)</u>	<u>2 (SBMR, SBER)</u>	<u>Moderate for those populations in the lowland mesic forests High in the areas where nonnative plants already dominate</u>
<u>Karnakahala (<i>Labordia cyrtandrae</i>)</u>	<u>78</u>	<u>Moderate</u>
<u>Lanaunau (<i>Lepidium arbuscula</i>)</u>	<u>7</u>	<u>High</u>
<u>Ulihi (<i>Phyllostegia mollis</i> and <i>P. kaalaensis</i>)</u>	<u>3 and 29 to 33 individuals represented, respectively</u>	<u>Moderate for <i>P. kaalaensis</i> High for <i>P. mollis</i></u>
<u>‘Ale (<i>Plantago princeps</i> var. <i>princeps</i>)</u>	<u>20</u>	<u>Moderate</u>
<u>Maolioli (<i>Schiedea hookeri</i>)</u>	<u>5 to 7</u>	<u>High</u>
<u>‘Olopū (<i>Viola chamissoniana</i>)</u>	<u>5</u>	<u>High</u>

Source: Gomez 2003

Four species of wildlife are likely to be affected by the spread of nonnative species: O‘ahu ‘elepaio discussed in Impact 1, ‘i‘iwi, *Achatinella mustelina*, and the Hawaiian hoary bat. For a comprehensive list of sensitive wildlife species with the potential to occur within the ROI see

Table 5-24. These species could occur within the area affected by fire, erosion, and training activities, each of which increases the likelihood of the spread of nonnative species to those areas:

The impact of SBCT actions on the spread of nonnative species would be lessened by instituting the Army's ongoing environmental programs. Measures identified in the Ecosystem Management Plan Report, O'ahu Training Areas (R. M. Towill Corp. 1998), and the O'ahu Training Areas INRMP (USARHAW and 25th ID[L] 2001a) for protection of biological resources on SBMR would continue as part of the proposed SBCT project actions. The programs outlined in Section 2.1.5 of Chapter 2 would help minimize damage to habitat, lower the likelihood that sensitive species individuals are disturbed, and maintain or restore the population level of sensitive species, particularly federally listed threatened and endangered species. The wash rack proposed at SBER would lower the chances of spreading nonnative plants, such as fountain grass, and invertebrates between training ranges.

Regulatory and Administrative Mitigation 3. As required in the terms and conditions of the Biological Opinions, the Army will implement the following:

- Educate soldiers and others potentially using the facilities and roads in the importance of cleaning vehicles, equipment, and field gear;
- Educate contractors and their employees about the need to wear weed-free clothes and to maintain weed-free vehicles when coming onto the construction site and to avoid introducing nonnative species to the project site;
- Prepare a one-page insert to construction contract bids informing potential bidders of the requirement; and
- Inspect and wash all military vehicles at wash rack facilities prior to leaving SBMR, KTA, or PTA to minimize the spread of weeds, such as fountain grass, and animal (invertebrate) relocations.

USARHAW will follow HQDA guidance developed in consultation with the Invasive Species Council and in compliance with Executive Order 13112, which determines federal agency duties for preventing and compensating for invasive species impacts. USARHAW will agree to all feasible and prudent measures recommended by the Invasive Species Council that would be taken in conjunction with SBCT action to minimize the risk of harm. Implementing an Environmental Management System will further improve the identification and reduction of environmental risks inherent in mission activities.

In accordance with USDA regulations and requirements, the USDA will inspect and certify cargo originating outside of Hawai'i to ensure that it is not carrying the brown tree snake or other reptiles before cargo for use on training ranges is transported.

Additional Mitigation 3. The Army proposes to use native plants in any new landscaping or planting efforts where practicable. When practicable, natural habitats would remain intact or adjacent areas would be restored as habitat.

Less than Significant Impacts

Impacts from construction and training activities on general habitat and wildlife. Habitat within the ROI is for the most part disturbed natural and introduced landscapes. Activities limited to this area would mostly affect nonnative species adapted to stressed or nonnative environments. Construction of the proposed ranges collectively would directly affect approximately 846 acres (see Table 5-28). Vegetation within the proposed footprints of these projects, which primarily includes nonnative grasses, shrubs, and pineapple fields, would be removed. Following construction of the proposed ranges, the Army would seed disturbed areas with native or noninvasive vegetation.

Table 5-28
Impact on Vegetation Communities Resulting from Construction
of Proposed Ranges

<u>Project</u>	<u>Area of Impact (approximate acres)</u>	<u>Existing Vegetation Cover</u>
<u>QTR1</u>	<u>120</u>	<u>Primarily denuded with areas of nonnative grasses and shrubs</u>
<u>BAX</u>	<u>600</u>	<u>Primarily denuded with areas of nonnative grasses and shrubs</u>
<u>UAC</u>	<u>6</u>	<u>Primarily denuded, existing buildings, nonnative grasses and shrubs.</u>
<u>QTR2</u>	<u>120</u>	<u>Agricultural lands</u>

Source: This information was developed as a part of ESA Section 7 consultation.

Increased human presence and elevated noise levels in the ranges would displace various wildlife species, such as birds and rodents. Wildlife within the impact area and associated surface danger zones could be affected by ordnance or other munitions. The potential introduction of fire, which could affect wildlife, is discussed under Impact 1.

Off-road mounted maneuvers would occur throughout the western portion of SBER. Wildlife and vegetation found in this highly disturbed area is primarily nonnative. Ground-dwelling wildlife and vegetation would sustain adverse impacts as a result of the maneuvers.

Road-restricted mounted maneuvers would occur at the SRAA. The net conversion of the highly disturbed pineapple fields to fallow land with mounted maneuvers on the roadways would not amount to a significant loss of general wildlife or vegetation.

Troop and other foot traffic in predominantly nonnative areas are not expected to have a significant impact.

Nonnative wildlife and plants generally have a negative influence on the success of native plants and wildlife. For this reason, a loss to nonnative species, such as those commonly occurring in the project ROI, is not considered significant (see significance criteria Section 4.10).

Threat to migratory birds. The presence of the FTI antennas could significantly affect migratory bird species known to occur in the SBMR ROI, especially those that migrate at night

(USFWS 2000). Although the exact number of bird fatalities from tower collisions in Hawai'i is not known, birds are killed in large numbers worldwide by antenna support structures each year (USFWS 2000). This is a violation of the MBTA (16 USC 703-712), which prohibits taking or killing migratory birds. Tower size is also considered a factor, with towers taller than 200 feet (61 meters) responsible for the greatest number of bird fatalities (Manville 2000). Less than significant impacts are expected because monopole antennas will be under 100 feet (33 meters) and, where possible, will be sited on buildings or towers, and no guy wires will be used. A full description and a map of proposed locations of the FTI antennas are in Appendix D.

Migratory bird species known to occur at SBMR that could be adversely affected by the Proposed Action include the white-tailed tropicbird, black-crowned night heron, barn owl, golden plover, and northern cardinal (USARHAW and 25th ID[L] 2001a).

UAVs would fly over the training area, as discussed Section 5.4. The UAV activity is not anticipated to threaten migrating birds.

Noise and visual impacts. Training increases noise levels that could adversely affect the O'ahu 'elepaio or other vertebrates at SBMR. The increase in training and ammunition use would result in an increase in the associated noise output. A study at SBMR concluded that "artillery noise was judged to have a negligible effect on the behavior of 'elepaio" (VanderWerf et al. 2000). The report does note that previous research, Delaney and Pater et al. in 1999, determined that louder and closer noises resulted in more intense responses (VanderWerf et al. 2000). Louder artillery noises or the closer proximity of 'elepaio to artillery could result in more intensive disruption (VanderWerf et al. 2000). In addition to land-based noise, there would be additional aircraft in the training areas (C-17s, C-130s, and UAVs). Noise from these aircraft, displayed in Figure 5-25, would not substantially increase noise in the habitat and therefore is unlikely to alter wildlife behavior (VanderWerf et al. 2000). It is important to note that the research on this issue is not conclusive and further information is needed. Currently there is little documented evidence indicating that the increased noise as a result of SBCT training (see Section 5.6, Noise) would significantly disturb sensitive wildlife species. However, more information is needed to properly understand training-related noise effects on 'elepaio and other wildlife. This issue would be addressed through the ESA Section 7 consultation process. In addition to prudent and reasonable measures determined as part of USFWS consultation on this issue, the Army would comply with EO 13186 as described in *Threat to Migratory Birds*.

There are no visual impacts on biological resources from project activities.

Reduced Land Acquisition Alternative

Significant Impacts

Impact 1: Impacts from fire on sensitive species and sensitive habitat. As described under the Proposed Action, impacts from fire would be significant. While less land area would be disturbed during construction of the SBMR ranges (because QTR2 would not be constructed in the SRAA), impacts from fire are still considered significant. Approximately 726 acres would be

disturbed as a result of range construction instead of 846 acres, a difference of 120 acres. A lower likelihood of training-induced fire exists under this alternative than under the Proposed Action, but there remains an overall increase in fire risk from project activities at the Main Post and SBER. The mitigation measures will substantially reduce the impacts from fire but not to less than significant levels.

Regulatory and Administrative Mitigation 1. The Army will implement the mitigation measures listed under the Proposed Action.

Significant Impacts Mitigable to Less than Significant

Significant biological resources impacts, mitigable to less than significant, associated with this alternative would be similar to biological resource impacts associated with the Proposed Action. However, mounted maneuvers would not occur at the SRAA, which would mean a decrease of 25,855 MIMs from the Proposed Action. RLAA does include mounted maneuvers at SBER, which would amount to an increase of 2,385 MIMs, compared to ongoing No Action activities. This would remain a significant and mitigable to less than significant impact on biological resources in the SBMR ROI.

Mitigation described for the Proposed Action would apply to the RLA Alternative and would reduce significant impacts to the less than significant level.

Less than Significant Impacts

In general, there would be fewer impacts on biological resources as a result of implementing RLA because only approximately 100 acres would be acquired for military use, rather than 1,400 acres with the Proposed Action. Because 1,300 fewer acres would be acquired under RLA, there is less land area that could be disturbed by military activities.

Less than significant biological resource impacts would be identical to those under the Proposed Action, with the following exceptions:

- In general, potential impacts on general vegetation and wildlife from mounted and dismounted light maneuver training, identified under the Proposed Action and associated with the QTR2 and the 1,300 acres identified above, would not occur within the SRAA. As such, there would be only limited impacts on general vegetation and wildlife from construction in the SRAA and the impact would remain less than significant; and
- Potential noise impacts on wildlife species from using QTR2 for small arms fire and from using the 1,300 acres for general mounted and dismounted maneuver training would no longer be expected. There would be short-term construction-related noise that would affect general wildlife; this would be temporary and would be limited by SOPs and BMPs. As such, this impact would remain less than significant.

No Action Alternative

No Action would result in no new impacts on biological resources, but would involve a continuation of existing impacts. An in-depth analysis of current force training impacts on

SBMR biological resources can be found in the *O'ahu Training Areas INRMP* (USARHAW and 25th ID[L] 2001a) and the *Endangered Species Management Plan Report (ESMPR) for O'ahu Training Areas* (R. M. Towill Corp. 1997b). All terms and conditions detailed in the 2003 Biological Opinion for Routine Military Training and Transformation of the 2nd Brigade 25th ID(L) at US Army Installations on O'ahu (USFWS 2003d) will be enacted under this alternative as well. A synopsis of No Action Alternative impacts is given below.

Significant Impacts

Impacts from fire on sensitive species and sensitive habitat. Several current force actions would continue to be potential sources of fires at SBMR, including tracers, explosives ordnance, and vehicle traffic (R. M. Towill Corp. 1997b). The live fire at ranges near Schofield Barracks Forest Reserve pose the largest threat to sensitive species and native species. The Army is addressing fire control under the IWFMP to minimize impacts from fire, and it would continue the following mitigation measures:

- Improve and clear vegetation from fuel breaks and access roads to decrease the likelihood of fire spread; and
- Implement protection and monitoring, as described in the ecosystem management plan, endangered management plan, and INRMP.

Significant Impacts Mitigable to Less than Significant

Impacts from construction and training activities on sensitive species and sensitive habitat. There have been and would continue to be impacts on the listed plants and wildlife. Vehicle and dismounted maneuvers along with live-fire and nonlive-fire training at SBMR and WAAF occurs primarily on disturbed portions of the ROI that are of low value to Hawai'i's listed species. However, the effects of fire, spread of nonnative species, noise pollution and visual presence of humans in or nearby designated and sensitive habitats negatively affects listed species that use or would potentially use this area.

The Army has completed ESA Section 7 Consultation for the impacts on federally listed species and their designated critical habitat from current force and proposed SBCT training at SBMR. Measures outlined under the Proposed Action (including fencing, ungulate control, habitat management, and rat control) will be incorporated into the No Action. Ongoing programs that would lessen the impact on listed species and their designated critical habitat include the ecosystem management plan, endangered species management plan, and INRMP (USARHAW and 25th ID[L] 2001a; R. M. Towill Corp. 1997b). These measures would help avoid effects and would compensate for impacts on listed species that would result directly and indirectly from implementing the No Action.

Impacts from the spread of nonnative species on sensitive species and sensitive habitat. Nonnative plants and animals, some of which may be invasive, have likely been and would continue to be introduced and to spread and would also continue to be introduced into natural areas at SBMR as a result of current force training. In compliance with Executive Order 13112 on invasive species, the Army would continue to minimize the risk of harm caused by invasive species, including implementing an invasive plant monitoring program, to be detailed under

the O'ahu Implementation Plan, and preventing secondary weed spread from fire by monitoring and eradicating newly dispersed weeds. Provisions are made for reducing these impacts in the *O'ahu Training Areas INRMP* (USARHAW and 25th ID[L] 2001a) by surveying for nonnatives, fencing out invasive mammals, increasing weed eradication, and evaluating and determining improvements for identifying threats and protection of rare vertebrates and invertebrates. Army environmental management (Section 2.2.4), including research, monitoring, and stabilization projects, would reduce these impacts to the less than significant level.

Less than Significant Impacts

Impacts from construction and training activities on general vegetation, wildlife, and habitat. Construction would be undertaken on a case-by-case basis in support of current training. Mounted and dismounted training would continue at SBMR and changes would occur as dictated by future requirements. Present impacts from current force activities are less than significant. Measures outlined under the Proposed Action for protection of sensitive species and habitat would also benefit general species and habitat. Training impacts would continue to be managed to limit trampling and overall loss of habitat range (R. M. Towill Corp. 1997b).

Threat to migratory birds. Current force activities would continue to have a less than significant impact on migratory birds. Status quo activities in the ROI may incidentally affect migratory birds but are unlikely to severely disturb birds, considering the highly disturbed nature of the present training area.

Noise and visual impacts. Noise would continue to be produced as a result of current force activities. Noise would have an adverse impact on animals in the area (due to disturbance) but would not significantly affect their behavior and would not lead to a population level decline. Studies such as the *Final Report: A Study to Determine the Effects of Noise from Military Training on the Endangered O'ahu Elepaio* (HINHP 1998) show that Army related noise on O'ahu has not significantly affected species, including sensitive species such as the 'elepaio. There are no visual impacts under this Alternative.